

**ABSTRACT OF THE DISCLOSURE**

The present invention includes a method for producing a chewing gum with a modified release sweetener selected from the group of N-substituted derivatives of aspartame, particularly neotame, as well as the chewing gum so produced. The modified release neotame or other N-substituted derivative of aspartame sweetener is obtained by physically modifying the sweetener properties by coating and drying. Neotame or another N-substituted derivative of aspartame sweetener is coated by encapsulation, partially coated by agglomeration, entrapped by absorption or extrusion, or treated by multiple steps of encapsulation, agglomeration, absorption, or extrusion. The coated sweetener is then co-dried and particle sized to produce a release-modified high-intensity sweetener. When incorporated into the chewing gum, these particles are adapted to enhance the shelf stability of the sweetener and/or produce a modified release when the gum is chewed.